

**PUBLIC CONSULTATION ON THE
ENVIRONMENTAL IMPACT ASSESSMENT FOR THE
PROPOSED
BAUXITE MINING and QUARRYING AT THE "OUTER
VALLEY" SECTION OF SEPL 541 IN ST. ELIZABETH,
JAMAICA.**

THURSDAY, MARCH 03, 2022

COMMENCED AT 5:30 P.M.

(Via Zoom)

MODERATOR: Good afternoon, and welcome to the Public Consultation Meeting for the Environmental Impact Assessment (EIA) for the proposed BAUXITE MINING and QUARRYING AT THE "OUTER VALLEY" SECTION OF THE SPECIAL EXCLUSIVE PROSPECTING LICENSE (SEPL) 541 IN ST. ELIZABETH, JAMAICA

The meeting is coming to you live from the Studio of Jamaica News Network (JNN) at 32 Lyndhurst Road in Kingston, with a satellite location at the St. Elizabeth Technical High School (STETHS) in Santa Cruz.

The Meeting is also being streamed Live on Jamaica News Network's YouTube Page. Streamed Live on Zoom Webinar Link and listen for this now that's (<https://us02web.zoom.us/j/81947726390>)

I know that's a mouthful.

To Participate you can also telephone and the number is 876-733-2461-6, that's 876-733-2461-6 and there is a WhatsApp number which is 876-878-1356.

You may access a copy of the environmental impact assessment report at the Social Development Commission office in Santa Cruz. That's at the Santa Cruz branch library as well, the Parish Council office - Black River, JISCO Alpart Sports Club, it is available there as well in Nain, St. Elizabeth, and that

EnviroPlanners Limited Office at Suite #5, Seymour Pk, Kgn 6. The National Environment and Planning Agency's Documentation Centre at 11 Caledonia Avenue, Kingston 5. The National Environment and Planning Agency Website and that is nepa.gov.jm

This meeting is being recorded by stenographer, Miss Jannet Wray and we thank you, Miss Wray.

At this time, we will go over to St. Elizabeth Technical High School for prayer. This will be done by Rev. Christopher Kennedy, Pastor of the Joyland and Abrams Mennonite Churches.

(Prayer led by Rev. Christopher Kennedy)

MODERATOR: Thank you, Pastor. JISCO Alpart - Now why is this meeting being held?

JISCO Alpart Jamaica Limited, (JISCO Alpart) plans to carry out bauxite mining in part of the

area designated as Special Exclusive Prospecting Licence (SEPL) 541. The mining is initially planned for the south-eastern section of SEPL 541 known as the "Outer Valley". Pursuant to the above intent, JISCO Alpart has made an application for an environmental permit to the National Environment & Planning Agency (NEPA) in accordance with the requirements of the Natural Resources Conservation Authority (NRCA) and that's the Act of 1991, the Natural Resources Conservation (Permit and Licenses) Regulations of 1996 and the amendments of 2015. The application was submitted to NEPA in May 2020 and subsequently the Agency requested that JISCO Alpart carry out an Environmental Impact Assessment, that's (EIA) Study in the specific area "Outer Valley" section of SEPL 541 which is proposed for

mining and is located in the parish of St Elizabeth.

The Environmental Permit is required to cover the following activities which will take place in the proposed mining area to include: land clearance, construction of haul roads, mining, transportation and stockpiling of bauxite ore.

JISCO Alpart has engaged the services of the consultancy firm, EnviroPlanners Ltd. to carry out this Environmental Impact Assessment, this (EIA). This Draft Final EIA Report is presented in fulfilment of the Terms of Reference (TOR) issued to JISCO Alpart, dated August 18, 2020.

The environmental impact assessment (EIA) involves the process of identifying, predicting and evaluating potential environmental impacts of development proposals. The term

describes a technique and a process by which information about the interaction between a proposed development project and the environment is collected, analysed, and interpreted to produce a report on potential impacts and to provide the basis for sound decision-making. The results of the study are taken into account by the Regulatory Authority in the determination of whether the proposed development should be allowed, and under what conditions.

An important aspect of the EIA process is the public consultation. Now there are two levels of public consultation involved in the Environmental Impact Assessment process. The first is direct involvement of the affected public or community in public consultations during the EIA study. During these consultations the project proponent informs

the public about the project and obtains feedback as to what issues the public wishes to be addressed. The extent and results of these consultations are included in the documented EIA report.

Now, the second level of involvement it takes place after the EIA report is prepared in the form of a public presentation/meeting. This virtual hybrid "Town Hall" Meeting is to present the main findings of the EIA, including adverse and beneficial impacts, as well as mitigation measures.

After the presentation, participants will be invited to ask questions or make comments related to the proposed project and the EIA report.

And after the meeting, the public will have twenty-one (21) days to make comments,

which are to be submitted to NEPA. Comments should be sent to NEPA's Applications Secretariat Branch via email, and this is it, applications@nepa.gov.jm or by mail to 10 Caledonia Avenue, Kingston 5.

Present in studio this afternoon, at the head table, Dr Timon Waugh, he is closest to me, General Manager EnviroPlanners Limited and lead consultant for the EIA, who will be the main presenter. Next to him is Dr Frank Ross, Mining Consultant (JISCO Alpart), then there is Mr. Basil Fernandez, Hydro-geologist then Dr. Eric Garraway- Terrestrial & Conservation Biologist and Team Leader.

We also have in studio Mrs. Andrene Jones, Environment and Safety Consultant at JISCO. Dr. Earl Bailey, Urban Planner and Land Resources Management, (EIA Team member). Miss Angelique Mullings, Archaeologist (EIA

Team Member), Mr. Damion Whyte, Vertebrate Biologist (EIA Team member).

Joining us on Zoom from China are Mr. Feng Yipeng, Chief Executive Officer (CEO) of JISCO Alpart Jamaica.

Mr. Sun Jing, Deputy General Manager JISCO Alpart.

Zhang Xuelu, Deputy General Manager JISCO Alpart.

Now from NEPA is Mr. Nigel Nelson, Manager Application Secretariat Branch.

Specially invited guests include:

From the various Regulatory Agencies

- Water Resources Authority
- Ministry of Health
- Jamaica Bauxite Institute, Mines and Geology Division,

- Political and Civic Representatives
- Members of Parliament
- Caretakers
- Councillors,
- Mayor of Black River (Mayor Derrick Sangster)
- Social Development Commission (SDC)

Background on JISCO Alpart

Jiuquan Iron and Steel (Group) Co., Ltd. (referred to as JISCO), founded in 1958 is one of the most important aluminium producers in China, having two aluminium production bases.

In 2018, JISCO announced plans for additional investments in Jamaica to include:

- Modernization and expansion of the existing plant
- The construction of a new refinery. And;

- Upgraded power generation facilities.

The feasibility study determined that additional bauxite reserves would be needed to sustain operations over a period of approximately 25 years.

So, it is against this background that JISCO is seeking an environmental permit to convert the Outer Valley section of the existing Special Exclusive Prospecting Licence area (SEPL) 541 to a Special Mining Lease (SML) which is a regulatory requirement for bauxite mining in Jamaica.

And now remarks from NEPA representative Mr. Negil Nelson, Manager Application, Secretariat Branch will now address the meeting. Mr. Nelson?

MR. NELSON: Good evening.

On the 14th of May 2020, the National Environment and Planning Agency received an Environmental Permit application from JISCO Alpart Jamaica, Reference No. 2020-11017-EP00097, for mining and quarrying in St. Elizabeth.

The information submitted in support of the application was reviewed and after screening, it was decided that an Environmental Impact Assessment would be required for the proposed project.

Integral to the EIA process is the requirement for a mandatory public meeting or a consultation to provide interested individuals, groups and/or stakeholders an opportunity to have a say in the decision-making process.

Consequent to the Covid-19 and the Disaster Risk Management Act (Enforcement

Measures) Orders on public gathering, the National Environment and Planning Agency and the Natural Resources Conservation Authority accepted that it would not be prudent to have only physical meetings at this time. A virtual meeting captures all the major tenets and principles of a physical meeting and this meeting which is being hosted by both physically and virtually, is intended to broaden the inclusion process and garner the views of all.

The audience should be advised that **NO FINAL DECISION** has yet been made on the application submitted. Participants should note that this public meeting is deemed important and the outcome from the meeting will be submitted to the Natural Resources Conservation Authority to guide the decision-making process.

The Agency is present to support the process and to ensure that the public meeting, is conducted in accordance with the terms outlined in the document titled "GENERAL GUIDELINES FOR PUBLIC CONSULTATION (EIA Applications)".

As a regulator, the Agency must remain objective and as such, will not participate in making comments or answering questions as it relates to the specific development.

Of note, is the process or public presentation and the Agency wishes to highlight the following with respect to this public meeting:

1. A copy of the Verbatim Minutes of the Public Meeting is to be submitted to the Agency by the applicant within seven (7) days of the date of the Public Presentation.

2. The public is allowed up to twenty-one (21) days after the Public Presentation to provide written comments to the Agency. These comments may be submitted to the Applications Secretariat Branch of the Agency at 10 Caledonia Avenue, Kingston 5 or via electronically by email at applications@nepa.gov.jm. That is applications@nepa.gov.jm.
3. All comments received by the Agency will be collated and sent to the applicant for their response.
4. The issues raised along with the responses provided by the applicants are incorporated in the respective submissions to the various Committees and the Authority and will facilitate deliberations on the technical merits of the project.

5. A recommendation will be made to the Natural Resources Conservation Authority (NRCA) which is the body responsible for making the final decision.

Please note carefully that the final decision on the application is the sole responsibility of the NRCA.

The Agency views the public presentation and public participation as extremely important in the application review and decision-making process.

Public presentations provide an opportunity for stakeholders to hear concerns, make comments, share opinions and views on the development and afford the applicant the opportunity to address these concerns/comments or views.

Please be reminded that the Environmental Impact Assessment Report for the proposed project is available for access by the public at the following locations:

- The Santa Cruz office of the Social Development Commission
- The Santa Cruz Branch Library,
- The St. Elizabeth Municipal Corporation, located at Black River, St. Elizabeth
- JISCO Alpart, Head Office at Nain, St. Elizabeth
- The office of EnviroPlanners Limited, located at Seymour Park, Kingston 6
- The National Environment and Planning Agency Documentation Centre, located at 11 Caledonia Avenue, Kingston 5 and National Environment and Planning Agency's Website (www.nepa.gov.jm)

Finally, and again, be reminded that the comments can be sent to the Applications Secretariat Branch of the Agency at 10 Caledonia Avenue, Kingston 5 or by electronic mail to applications@nepa.gov.jm.

Thank you.

MODERATOR: And we thank you, Mr. Negil Nelson, Manager, Application, Secretariat Branch for his address to the nation.

Remarks now for Mr. Feng Yipeng, Chief Executive Officer for JISCO Alpart Jamaica, will be delivered by Mr. Sun Jing.

MR. JING: Ladies and gentlemen, good afternoon. My name is Sun Jing, Deputy General Manager JISCO Alpart Jamaica, on behalf of Mr. Feng Yipeng, the Chairman and the General Manager of JISCO ALpart, Jamaica. We are

happy to bring you greetings from the Headquarters of Jinquan Iron and Steel Company, the parent body of JISCO Alpart, Jamaica. We are sorry that we cannot be with you in Jamaica today, but due to COVID restrictions, we have to speak to you from China.

When we purchased Alpart in 2016, it was our intention to completely renovate and modernize Alpart to be one of the most efficient and productive Alumina Plants in the world. It is still our intention to do so.

Unfortunately, the plant machinery was in worse condition than we anticipated, and the constant breakdowns and falling world prices for alumina, forced us to close the plant in 2019. The modernization and expansion of the Plant was scheduled to begin in March

2020, but the plans were delayed due to the outbreak of the COVID pandemic.

However, we have not been idle. We have taken this period to revise our modernization plans, including working with the Government of Jamaica to identify the additional bauxite resources that will enable us to expand the capacity of our refinery production from 1.65 million tons of alumina annually to 3 million tons annually. This will be at a capital cost of USD \$1.1billion over a five-year period. Over 1,000 jobs will be provided during the modernization phase and after completion Alpart will provide at least 500 full time direct jobs, as well as, indirect opportunities for over 500 jobs in the neighbouring communities.

To feed this plant for 25 years, we will require approximately 7.5 million dry metric tons of bauxite annually.

While, we continue our exploration work to provide up additional bauxite resources, we are seeking to secure approximately 15 million dry metric tons of bauxite in the Outer Valley area which is the subject of this Environmental Impact Assessment we are discussing today.

It will not only bring jobs to the communities, but will also bring opportunities in educational assistance, skills training, healthcare support of clinics in the area and support and training programmes to the farmers of our neighbouring communities.

JISCO Alpart is committed to continuing its long history of good corporate citizenship and community development.

Thank you.

MODERATOR: Thank you so very much, Sun Jing speaking on behalf of Mr. Feng Yipeng, Chief Executive

Officer of JISCO Alpart Jamaica, that presentation is coming to us from China.

We are almost to the point of the presentation, but just a few more bits information.

In accordance with the NEPA Public Consultation Guidelines, this presentation should be simple, concise and comprehensive. The main findings of the EIA including adverse and beneficial impacts identified and analysed should be presented. Mitigation measures and costs associated with these measures should be presented. The meeting should inform the public on how they will get access to monitoring results during the construction and operational phases of the project.

The technical presentation will be done by Dr. Timon Waugh, the lead Consultant for this Environmental Impact Assessment and after

the presentation there will be a question-and-answer session where you will be invited to ask a question or make a comment. Of course, we are going to ask you to say your name if possible, and of the community that you are representing. You will also be able to participate via phone and let me remind you of the number, 876-733-2461-6; the WhatsApp,876-878-1356. Zoom Live from the satellite location at STETHS and you can type in the chat.

I now invite Dr. Timon Waugh to make his presentation. Dr. Waugh.

PRESENTATION BY DR. TIMON WAUGH

DR. WAUGH: Thank you very much and good evening to everyone.

This is the Environmental Impact Assessment for the proposed mining and quarrying of the

Outer Valley section of Special Exclusive Prospecting Licence, SEPL 541.

From now on we are going to be referring to that as "SEPL 541" and not that long name, Special Exclusive Prospecting license. So, we will use SEPL 541 to refer to the area, the project area in short. The presentation will be broken out into four sections.

The project background which will look at the project location, the background to the project, the project component and as well as the scope. At Section II we will look at the environment and we will provide a description of the physical, biological, social and heritage environment. We also in Section III, will look at presenting a summary of the impact and mitigation, and then in Section 4 we will talk about monitoring and reporting.

Background and Description

First, let us look at the exact location of this project. The project is located in the Essex Valley area of St. Elizabeth, that puts it in just about the eastern central region of St. Elizabeth, and it runs alongside the border of the parish of Manchester. The communities included in this area are: Pepper, Long Hill, Friendship, Fellowship, Southampton, Northampton, Goshen, Gilnock, Santa Cruz, Mitchell and Peru Pen.

It is to be noted that the area, as you are seeing hopefully on screen, is outlined in that black border and the total area is just about 30,400 acres. In the map you are looking at also in blue are where the orebodies are located. The orebodies which are really the areas that will be mined will cover an area of proximately 700 acres. By that, what that

means is that, about 2.3 of the total project area will potentially be mined.

Why has this project become necessary?

Alpart which commenced operations in 1971, was later acquired in 2015 by JISCO Alpart, now known as JISCO Alpart. T

The plant had to be closed after a short period of production in 2019, because of breakdown and challenges with what turned out to be equipment that was in worst condition than was expected.

JISCO Alpart has planned a US\$1Billion investment for the upgrading and the expansion of the plant to move production up to just under 3 million tons per year. In order to make the project feasible additional bauxite resources would be required.

The Outer Valley section of SEPL 541 was selected for this expansion.

The project area – Outer Valley section of SEPL 541. Why this area?

This area is very close to the plant. As you can see from the diagram, the map to the left, most of the lands within the area selected which is highlighted in yellow, is already owned by JISCO. This area is also adjacent to SML, special Mining Lease 167, and this is where mining is currently taking place and hence the infrastructure to mine exist in that area.

It means that the infrastructure could simply be extended to the adjacent SEPL 541. It also is that, the bauxite to be found in that area is suitable for blending the existing supply, where also adequate volume is located in that

area. And also, the area is already just about 90% disturbed that means, that the forest was removed, and the area was used for other thing, and it is now primarily in grassland or shrubs.

Description of the project

The project will operate in three phrases. A pre-operation phrase that will last about five years. In this phase there will be construction of access roads, haul roads and other infrastructures along with site clearance. In the operation phase, phase 2 which is the last for about eight to ten years, it will be where mining operations will take place including mining, haulage and stockpiling of bauxite and transportation to the plant processes.

The third phase is after mining is completed, the rehabilitation or restoration phase. In this

phase, restoration will be done progressively. It means that, as soon as a pit is mined off, then shortly thereafter rehabilitation will commence in those pits and then move to another area. It is estimated that proximately 15 million metric tons of bauxite will be extracted from this SEPL 541 project area.

Let's now look at a description of the environment starting with the hydro-geology.

First of all, in terms of the geology and stratigraphy, the area is primarily alluvium with swam and trees. Of course, bauxite is also included, and is dominated by the Newport limestone.

As far as drainage is concerned, ground water is very active in the area, very prolific as is the nature of the limestone, the Newport limestone that dominates in that area.

The underground water also flows in a northwest direction. For surface drainage as it turned out, especially knowing that the Newport limestone dominates the area, it is not surprising that there was no surface water in the Outer Valley section of SEPL541. There is lot to water underground in the area and it is important that we notice that the total resource allocation for water in terms of the wells that are in the area is approximately 89,000 cubic litres per day. Of that, the NWC with 40,000 cubic litres per day and JISCO Alpart with 39,000 cubic litres per day are the major users. The others make up the other 10,000 cubic litres per day.

For the physical environment...

MODERATOR: We are having a slight technical glitch, but as soon as we - All right, perhaps you could try that from your device.

DR. WAUGH: Okay. For the physical environment let's look first at air quality. An air quality sampling was done for a period of twelve months within the project area, and based on the data collected the results showed that all the parameters were in conformance with Jamaica's Ambient Air Quality Standard. The water quality was similarly monitored and it was also found that the water quality from the area was in conformance to the standard for portable water.

We also monitored noise within the project area, that is, Outer Valley section of STPL 541 and we found again, that the data show that there were conformance with the standards expected in instances where there were localized sources of noise such as machines being operated, heavy vehicles, horns or things of that nature.

We move now to looking at the **biological environment.**

In general, the biological description of the site is that, the area generally had been significantly disturbed over centuries with nearly all the original vegetation removed, and this would be more likely for farming and other human settlements or activities. The observed biodiversity is consistent with what is typically of highly disturbed areas in Jamaica, and that is dominated by grassland and fields.

Let's now look at the **distribution of the vegetation type in relation to the orebodies.**

The ore bodies as you would have seen from earlier, comprises about 2.3% of the actual area that is being studied and within this area those orebodies are located in areas that are

dominated by grassland. The total acreage of orebodies is just about 690 acres. Of that amount, about 630 acres would be found in areas that would be described as grassland or herbaceous crops or fallow lands or cultivated vegetables. The other area, the largest area, would be secondary forest and fields which comprised about 6%. So, grassland fields, et cetera, about 91% of the orebodies are found there, and another 6% is to be found in secondary forest.

For **flora**, 30 endemic plant species were noted during the study. Five (5) invasive plants species were common including the logwood, the red bead and the common bamboo. None of the plant species encountered is listed as having special conversation status by the International Union for Conservation of Nature (IUCN).

For **fauna**, the reptiles identified consisted of eleven lizards, nine of which were endemic, four snakes and one freshwater turtle. There were endemic and four introduced frogs.

It is to be noted that the peru king, although a great distance away from the orebodies but still within the boundaries of the STPL 541 Outer Valley section, it has a very active ecosystem and included ten species of bats.

Continuing with Fauna. The blue swallowtail butterfly was identified in the area. Again, this was distance away from where the orebodies are located. There were 28 species of land snails from eleven families which were recorded. 84 species of birds were observed, 18 of which were endemic.

For **heritage**, the influence of the area would be by the Tainos, the Spanish and the English.

There were 76 sites or structures that are of archeological significance that were identified in the area, STPL 541 Outer Valley Section, and these were plantations, or remnants of plantation houses, churches and graves.

Most of the artifacts or archeological structures were either damaged or destroyed, and that would be primarily for development or agricultural activities.

The **socioeconomic environment**: The communities involved in this was Goshen, Mitcham, Peru Pen, Gilnock, Northampton Southampton, Pepper, Friendship and Fellowship. As it turned out from that survey, the land used showed that 50% was mixed-use and another 48% was for residential, with about 2% having opened spaces.

The survey was conducted amongst 220 households within the project area. From the data collected in this survey, 83% of respondents indicated that they believed that bauxite mining caused poor air quality, 64% believed that bauxite mining will be beneficial to the community, 77% believed that bauxite mining would be beneficial to the country, 71% of respondents also believed that bauxite mining and the project would increase employment, 51% believed that it will result in better infrastructure for the community, and 53% believed that it will result in support for local businesses.

Summary of the Impact and Mitigation

For **physical impact**: There are, typical of what is expected for bauxite mining operation, for which we have had a long history, fugitive

dust, impact on the aesthetics, safety issues, soil disturbance that would result in turbidity especially in incidents of rain and noise.

General **mitigation measures** that would be needed as well include:-

- Wetting and covering of areas that which dust could be generated
- Making sure that speed limits are enforced and controlled to minimize the dust from vehicular traffic.
- The rehabilitation and restoration of mined out area in a timely manner
- Contouring of pits, so that there is a limited chance of landslides and cave-ins, et cetera. And;
- To limit the operating hours so that the impact on persons in close proximity is minimized. And of course;
- Using low-noise machinery.

The impact on water resources could be the damage to wells and other water distribution infrastructure, as well as disturbance of pumps or pumping systems within close proximity to where mining may be taking place.

The mitigation here could be to ensure that you maintain buffer zones from the wells or other water infrastructure as well as ensure that before mining starts, that the area is scanned to detect where pipelines may be so that appropriate precautions can be taken.

The biological impacts generally would be expecting loss of flora and fauna, loss of habitat and fragmentation of habitats from the mining activities. Mitigation again, would involve to make sure that proper and adequate buffer areas are maintained. The relocation of sensitive species that may be

encountered during the mining activities and to limit the land clearance to only what is necessary at any one time, and ensures that as soon as possible, adequate and proper rehabilitation and restoration is done.

Socioeconomic impact will include changes to land use, relocation, creations of jobs, employment opportunities and a boost to the economy.

Mitigation would be ensuring that the farmers are given adequate notice so that they can be making proper preparation in advance to maybe move to other areas, relocation of those farmers to those areas while mining takes place in one area. Restoration of mined out areas so that it can again be put into farming and reclamation and restoration of these must generally be done promptly.

Monitoring programmes should include air quality, waste disposals, water quality, relocation of flora and fauna where that becomes necessary, rehabilitation and restoration activities, as well as environmental permit conditions and any other conditions that maybe issued by the regulator.

For the monitoring programme, the existing environmental monitoring and management plan that JISCO operates should be expanded to include the Outer Valley section of SEPL 541 which is the project area, should this permit be granted.

JISCO should also ensure that the **community councils** that currently operate are active and that they are expanded to include the Outer Valley area of SEPL 541.

Monthly monitoring reports must be submitted by JISCO to the relevant agencies and where they are not monthly, whatever the specified timeframe is, those must also be done.

There is that **inter-agency visit** that takes place to verify and to ascertain compliance with the various conditions, permits and regulations that applies within the mining section and the bauxite industry and those must be, must continue and be adhered to.

That brings me to the end of my presentation. I guess you will move into the question and answer section and therefore, I thank you very much your participation.

MODERATOR: Dr. Waugh, we thank you very much for the presentation. And just to remind everyone that we had at the head table Dr Frank Ross,

Mining Consultant (JISCO Alpart), Mr. Basil Fernandez, Hydrogeologist and Dr. Eric Garraway, Terrestrial and Conservation Biologist and prospecting Team Leader, to address your questions when you ask them. So, this is the time for you to do that. Let me remind you again of the various options you have to ask your questions. The telephone numbers, ready? 733-2461-6; that's 876 of course, 733-2461-6. The WhatsApp number, 876-878-1356.

You can put your question in the Zoom link in the chat section. I gather the turnout at STETHS is good, you know, so we want to hear your questions.

Now, I am going to ask you to manage how you ask the questions, by that I mean, nuh go on and on and on like you go outta valley and come back and come back in, all right. Just

ask the questions, say your name too and the community from which you come.

So, let me apologize, we had a little technical glitch when we were doing the presentation earlier on and so there are a few slides that you may not have seen but you were hearing what the slides were about, so we apologize for that, sincerely.

So, we have any questions coming up because if there isn't any Zoom chat or wherever it is, I have few questions here.

QUESTIONS AND ANSWERS

Could we address this matter of air quality? I don't know which of you, if you will go, Dr. Waugh or any of the panelists, because you mentioned it, and people are concerned about it in the survey that you did. Who will take it off? What will JISCO Alpart do to ensure that

the air that people are breathing in, does not compromise their health? That looks like Dr. Frank Ross is ready.

DR. ROSS:

Good evening, ladies and gentlemen. In the mining area our main problem tends to be (inaudible) dust, dust particularly on the haul roads and in the haul roads area. What we do is that we try to build and limit the haul roads to interior areas of the operation away from the communities as much as possible. We also wet the haul roads - We have a programme of wettings the haul roads regularly so that we can keep down the dust that will come up off the haul roads as the trucks pass by. We have also been exploring with NEPA for the use of potential chemical dust suppressant that will also control the dust from the roads.

In terms of the mining area itself, we tend not to have significant dusting from the actual

mining as the bauxite has approximately 25% moisture, it tends to be pretty moist and most of the operation would come from the trucking. And we try as best as possible to stay on top of that to keep the dusting down. The other issue, of course, is that, if the period is very dry and very windy and we cannot control the dust to our satisfaction and to the requirements of the communities around us, then we cease mining, suspend mining until the wind died down before we start up again. If we can't control, we pause.

MODERATOR: Thank you so much, that's Dr. Frank Ross. There is someone standing by at SETHS at our satellite location over there in Santa Cruz. Mr. Clarke, it's over to you with your question. Could you give us a little bit more volume in here please? Somebody is going to have to

tell us what Mr. Clarke is saying because we are not hearing him in here.

MR. CLARKE: Good to see that Dr. Ross is still involved somewhat and therefore, I would want to find out how is it these farmers are going to be accommodated within the structure?

MODERATOR: Thank you so much, Mr. Clarke. You hear the question, Dr. Ross?

MR. CLARKE: So that is the question.

MODERATOR: Thank you, we really appreciate your starting thing off for us.

MR. CLARKE: What is going to be the things that are being done to assist those farmers who are presently on the lands, that 50% of land that is going to be air-marked for mining?

MODERATOR: All right, thank you for asking. St. Elizabeth could you just manage that there for me now

so that Dr. Ross can answer. Good question there, Dr. Ross.

DR. ROSS:

Yes, Mr. Clarke what we try to do is, before we actually get into the area to start mining we do a survey of the farmers, we link very closely with the community representatives and with RADA.

Now, that area we tend to have a lot of farmers on lands with scattered parcels of actual active farming. And what we try to do before we come into an area, one, we give them notice to let them know well in advance that we are coming, we ask them to limit any sort of long-term crops and to only plant short-term crops within the period when we expect to come in. The other thing we do is we try to relocate those farmers into other areas where close by but in other areas that is not going to be mined initially, so that they can

continue their farming activities while we mine and then we reclaim and we put them back on the land. So, we do have a time where we will be working closely with other farmers in the area but we try as best as possible to accommodate the farmers in the community.

MODERATOR: I hope that has answered your question, Mr. Clarke. I see he is still standing at the microphone. So, I sincerely hope that he heard and that - He is speaking, but we not hearing Mr. Clarke. I think there is a little bit of a delay. So, we will just allow him a few second saw then - Yes, all right. Are there any other questions coming out of St. Elizabeth or any on any of our line so far? Let me bring another matter to you, gentlemen. Will any houses, any homes be affected, any relocation of houses?

DR. ROSS: At this time we do not have a total idea of any sort of relocation that will take place. However, if the SML is approved as we go in to do more detail analysis of the actual mining area and of the road infrastructure that will be put in place, if we have to relocate we will be talking with the individuals on a one-and-one basis and try come to come to an agreement either to purchase and to relocate them in somewhere that they would find suitable or to purchase their property outright and then they could live somewhere else where they have access to. So, there is the possibility that we will have relocation, the preliminary overview that we have of the area is that it will be minimum at this time.

MODERATOR: Minimum, thank you for that. Reminding you that you can send in questions via WhatApps that number is 876-8781356, that's

8768781356 and the phone number if you want to call is 8767332461 to six. All right, Howard is on standby. Is Howard from down at SETHS as well, hello Howard how you do? Good, great.

HOWARD: Yes, I have three questions/observations/suggestions.

In regards to the roads, because there are three main roads that is within the mining area; Santa Cruz to Gutters, the Lovely Point Road and the Nain to Amos Road and somewhere somehow we gonna have to cut that road or these three roads. I do hope that in all process that Alpart is going to be rehabilitation of these three roads because they are going to come under tremendous pressure, spillage and all different kind of

pressure is going to come across on these roads. So, I hope that you have it in your budget to assist with these three roads.

Secondly rehabilitation, after mining are some areas is going to be left with some battled scars. What I suggest for you to do with those scars to deal with rehabilitation, try and seal those scars and let have some form of settlement at lease to create some micro dams so at least it can help to assist the farmers. Because if the climate is changed anything can happened when it comes to getting potable water or water for irrigation so I want you to continue that.

Now, looking at the flora and fauna, and where the flora is concerned, I am a little bit concerned because I hope that in - When you are doing your rehabilitation you must

consider putting real, real orchard crops, right. Reforestation should be so essential.

I must congratulate you as I kind of peruse the 400 and odd page document, and I think it was well put together. I didn't see much about the health hazard for humans and animals and so on, but I think it was well put together and I must congratulate my former lecture Dr. Eleanor Jones, I think she is part of this team. But I think it's a good document if you read the 400 and odd page. The maps are concise and accurate and I think that the parameters that you used to do the questionnaire were satisfactory.

MODERATOR: Thank you so much. Really, thank you for your input Howard. Lots of things happening there down in St. Elizabeth, I am happy to see that the questions are coming.

Do we have someone else, okay, we have someone else, a WhatsApp question now; see yah now; there are graves on parts on these areas - Why mi WhatsApp question blank out pan me now? What they are taking about is the graves, and it was mentioned in the presentation, that's is sacred to many people; what will happened there?

DR. ROSS:

Okay, ladies and gentlemen, in terms of grave relocation. Normally we try our best not to disturb graves that are in the mining area. What we do is we mine around them and we do not disturb them. If, however, there is necessity for a grave removal, we normally, we get in touch with the family members and we determine with the family members what they would like to be done with the remains. We had in the past moved, exhumed those bodies or rather the remains, and relocate

them to a cemetery within proximity to the family or wherever the families were comfortable with, and the remains are re-entombed, et cetera. But all of this if it is done, will be done in consultation and with the agreement of the family members.

In terms of the questions that were raised by Mr. Howard. Just quickly to point out that any roads that we are traversing on we will assist in maintaining those roads. Any crossings will have traffic warden at these crosses to ensure that the safe movement of traffic along the haul roads and of course, the priority is always with the public roads. The public traffic gets priority, the haul trucks have to stop before they are flagged across.

In terms of the question of water. Yes, this is something that we have participated in. We have worked with the Jamaica Social

Investment Fund and JDI in putting in place ponds, sealing pits, in putting in place ponds and those are tend to be tied in with green house clusters. There is one in fact at Bona Vista where the area was sealed, plastic liners were put in and a greenhouse cluster was put in place. There is also another one up at Rose Hill.

Mr. Howard spoke about putting together proper programmes on rehabilitation of orchards. If you look at orchard right beside Alpart Sports Club there we have put in a mixed orchard. We find that the communities tend to prefer fruit trees rather than forest trees, so we have put in naseberries, ackees, mangoes, coconuts, all high value fruit trees and what we do is overtime we lease these to the community or the community council as an income-generating project.

MODERATOR: All right, thank you so much. We have quite a few people at SETHS who would like to ask question. I know I have this right Maka-Dina, a you now, you know, so mek we hear what is going on.

MR. JONES: Good evening, everyone.

MODERATOR: Good evening.

MR. JONES: It is actually Mackadian Jones.

MODERATOR: Oh, Mackadian, let me apologise to you.

MR. JONES: Pointers leading into the question. I would have observed based on the data here, Mr. Clarke pointed out 91.4% of the area expected to be mined is made up of farms-lands, mining tends to come with a number of adverse effects, some of which based on the findings predominately will be focused on the farmland.

The point was made in terms of restoration and of course, relocation but the fact still remains that wherever mining takes place there is significant reduction in the productivity of that land whether it might be used for farming, crop farming or cattle production.

So, the question is, taking an advance, I want to say advance view in terms of how it is that farmers can further be remedied. How is it that Alpart will seek to integrate technology into assisting some of these farmers that are being adversely impacted? As we believe that with the side effects, if I should say, of mining there will be the need for the implementation or introduction of some advance means of farming among the farming population in the parish.

The other thing I want to mention is that Alpart, in all my days has been notorious for three things, one of which is of course, the displacement and relocation of citizens and for the most part the lack of titling for those citizens that are replaced or relocated.

I want to find out if there is a structured programme and how effective that programme is? I know that it is reaching home to the residents of Santa Cruz. How is it that we will better see a stream lining of persons receiving their titles for relocation...

MODERATOR: Mackadian, can I ask you to hold for me? Santa Cruz just manage that for me, please. Let me ask you to answer the first two questions and then we go back to him if needs be.

DR. ROSS: Okay, Madam Moderator. In terms of the point he raised about 91% of the land being farmlands that was not what the study said, it said 91% was in grassland. As you would well know since you are from the area, a lot of that grass land is not being farmed. Some of it, there is some cattle and in other areas there are a lot of small patches of crops. So, as I mentioned earlier, we try to consolidate and ensure that the farmers can continue to farm while we mine and progressively - we mine and we move them back and relocation.

Now in terms of technology, in terms of improved practices, this is something that we have been doing for several years, where we have worked with RADA and with CARDI and other agencies to try and improve the farming techniques and the technology being used in farming in the communities. We are talking

about fertilization practices, crop care, we talking about green houses, we are also talking about goat herd improvement programmes where we brought in a number of high quality goats into the area, we arranged training centers and breeding facilities where farmers involves in the programmes could carry their animals and have them upgraded by breeding.

So, we will definitely continue to work on this, we worked on minisett with Ministry of Agriculture, minisett yams, so this is something that is very close, particularly to my heart since I have an agricultural background so we will definitely continue to work on that.

Land titling, the Alpart has basically provided titles for persons that we have relocated. Approximately 90% of the persons that we

have relocated we have provided titles for. We do have issues with some titles and titling is very much an individual satiation in some cases persons do not have proper titles to the land that they are selling to Alpart. We have do have issues where persons have been asked and even assisted in having Wills probated, transfers made but sometimes this takes very long and can create a problem and we do have a backlog. We do not want to have any titles outstanding and we are working audaciously on that.

We have been stream lining our operations, we have been working with the Government now, they have a new vested programme, where they are assisting in speeding up the whole titling process and we are working with them on that. So, we definitely will continue,

we definitely have to improve and will improve our land titling process.

MODERATOR: Thank you so much, Dr. Frank Ross. I know we have a line-up of persons. Macadian, I don't know if you would allow some of the other persons to ask their questions and then if anything you come back with the rest of what you have. So, let's go back to SETHS and see - Thank you Macadian, thank you so much. As soon as we are able to accommodate you, you can come back, I just want to make sure we get everybody in there. And this gentleman just say your name, please, sir and then you can go ahead with your question.

MR. COLLINS: Collins from Santa Cruz community. Good evening to all. Now the Impact Assessment team has is determined that the underground water aquifer is very, very productive in the proposed mining area. It has also established

that there are several wells in the proposed mining area and one such is the Essex Valley water supply well/scheme that supplies a predominate part, a large part of South St. Elizabeth. Now in the presentation it was said that in the cases of wells there would be a buffer zone. My question is, what constitute a buffer zone? And if it is that a well such as the Essex Valley well were to be in the middle of a significant orebody, what would be the approach of JISCO?

MODERATOR: Thank you Mr. Collins. I see Dr. Ross sharing some note with Mr. Basil Fernandez. Who is going to answer this one about the Essex Valley water supply and what could happen or how are you going to manage that?

MR. FERNADEZ: Good evening, ladies and gentlemen. We have taken recognition of the Essex Valley Well because it has been about 13 years in just

getting the well drilled and commissioned into service and I know it's going on a bit by bit bases as we extended pipeline depending on the funding between the Alpart, JDI and the National Water Commission.

But if I remember rightly, when I went to site that well and I was the one who actually sited that well for that...

MODERATOR: When you say "sited the well", what do you mean.

MR. FERNADEZ: I went into the field and selected a site based on the geology and other factors and drilled the well there, because they were looking to drill more down and reach the standard where the well could have been very, very deep and not exactly very productive so we move a little up north of the plant and we did that.

I remember that there was some mining taking place around and I think there were some holes that have been removed from that area already. I don't anticipate that there will be any problems with the wells as we said there would be a buffer zone, the issue is basically vibrations that may occur because you have the tracing in ground and if you have vibrations especially if you are building haul roads and you are moving heavy equipment across those haul roads we could have vibrations which could impact on the tracing of the well which is the sea pipes that hold the sides of the well open and in pump is in the middle. Is the vibration will cause the placing to shift you can have a problem where the pumps on the shaking and the damages the pumps and you will have to replace the well in total. But I don't anticipate that if the buffer

zones are selected and the pre-scanning is done for the pipeline is I don't think there will be any problem the with pipe line and the well as it.

MODERATOR: Thank you so much Mr. Basil Fernandez, Micro geologist. I see Dr. Frank Ross, you wanted to add to that?

DR. ROSS: Yes, Madam Moderator, just a quick addition to what Mr. Fernandez said. Where the well is actually sited, has already been mined, there are orebodies further north of that location and further south of the location but they are not in very close proximity to the wells and haul roads that may pass or rather a haul road that may pass would be passing quite far away from the well.

Alpart has been totally involved with the Essex Valley water scheme in terms of funding and

other aspect of it, the pumping station, quarry, storage station at Nain the land was leased by Alpart et cetera So, we do have our engineers who have drawings of where the pipelines are, et cetera, we will ensure that we do not affect the pipelines or the well when we mine in the future.

MODERATOR: Thank you very much and thanks Collins for that question. I think I have Blake on standby from St. Elizabeth Technical. Hello dear, good evening, sir, thank you so much for participating, go ahead.

BLAKE: Good afternoon, really I am not here representing St. Elizabeth Technical, I am glad to be here because this is the school that the came to many years ago and I am very proud to be a past student of one of the best high schools in Jamaica.

However, I am the Chairman of the Alpart Community Council. This council is 32 years old and we have been working with JISCO Alpart and all the previous owners to resolve problem as they arise. There is also a council in the Plateau area, our sister council and we would be welcoming the Outer Valley members as soon as the time is right, so I am glad to be here.

The study what was done I went through the document, was well put together and I am sure that the planners will ensure that the words go out to the respective out of communities that will be involved in this project. I thank you.

MODERATOR: Thank you, Mr. Blake and we are happy that you are proud of your alma mater. I wonder if he used to play football. Thank you. And he serves his country in another capacity, I am

being told, as Member of Parliament. So, thank you so much. I can see somebody else there, 'bout two other people standing. Yes, sir, good evening, glad you could make it. Did you attend SETHS? Were you a student of SETHS?

MR. HILL: I went to Cornwall College in Montego Bay, but I have been in St. Elizabeth for more than 25 years.

MODERATOR: Oh, so that's home now.

MR. HILL: I am currently the President for the Parish Development Committee, the St. Elizabeth Parish Development Committee. My name is Alvin Hill. I am glad that there are economic developments that will continue to take place in this parish but we still would have to - One of the questions that I would love to ask is, what are the mechanisms that will be put in

place to formulate the community committee that is going to be engaging with Alpart, JISCO Alpart in the Outer Valley area? We need to know what mechanism will be put in place to treat with that? And also, the employment opportunities for both the skilled and the unskilled persons within the area. How will those persons be treated? What are the opportunities that will be available for those persons?

I know that one of the situations that arise also, is the issue of respiratory illnesses. What sort of contribution will Alpart be making to the local medical health sector to treat with probably the increase with those situations when they arise? What sort of opportunities or contribution will be made towards dealing with that situation?

And also in terms of your engagement with the local stakeholders, a wider participation outside of just the community council in terms of your linkage with the stakeholders within the parish, and I do believe the Parish Development Committee?

MODERATOR: Thank you so much Mr. Alvin Hill, thank you. I see you are taking copious notes there.

DR. ROSS: It seems that I will be the one that is talking the most this evening.

MODERATOR: Yes, it seems so, but turn on your mike though because if you are going to be talking, we need to hear you.

DR. ROSS: Mr. Hill, in terms of the community council and the community interactions, normally our community relation officers and also members of the current Essex Valley Community Council we move through the different communities,

we speak to the persons, we have townhall meetings with them and we ask the persons in the community to select and recommend persons to represent them as councilors on this community council. Alpert does not select the person, the persons are selected by their communities and put forward and they are brought into the community council.

Mr. Blake can fill in a little bit more on the procedures but definitely we talk to the communities and the communities select their representative and the representative bring the problems to us and we work together with the council in economic development programmes to help to support the communities.

Employment was another point that you raised and Alpart has always been very supportive and tried as much as possible to seek the

skilled and semi-skilled person from the community in which they operate. In fact, we have developed skills training programmes along with HEART/NTA where we train persons in skills such as welding, pipe fitting and other areas that can be useful not only to us in the Company, but also to the community and to the persons when we are no longer around and we will not be there forever.

So, it is good that we put a base, a skill into the communities that can be used in the future.

In terms of health, we have always supported the health centers and the hospitals in the areas, and we will continue to do so as much as possible as much as we can, where we have worked with the Myersville Clinic and others providing assistance, medical equipment, nursing facilities et cetera, to assist in really

trying to improve the health conditions of our neighbours in the communities whether or not we are affecting them. But we need a good strong healthy workforce.

So, it is to our own benefit to work and improving the health in the communities and we will continue to do so.

MODERATOR: Thank you. I notice something very strange about the people down in St. Elizabeth, there is not one woman who come and ask a question yet. No woman not down in the gathering done there? If any woman in the gathering tell them I am waiting for them to come forward and ask a question before I go to this gentleman, who is next Mr. Smith. Ladies stand up and ask your questions you are part of the various communities and you must have an interest in what is happening and you may see things in a way that

sometimes - Mi nah knock the man dem you know, but sometimes dem nuh quite see it the way we see it. All right. Mr. Smith, howdy do, sir.

MR. SMITH: Good evening, everyone. My name is Joseph Sangster Smith, I am a student of the University of the West Indies, Mona. I am not from the Essex Valley region of St. Elizabeth but I am from St. Elizabeth. So, I have two questions: The first one Mr. Hill had asked as it regards to what are the creation of jobs and the employment opportunities that would be viable because - And this is important, and I don't think there was any response to that question. To be more specific, what kind of employment opportunities, and how will persons from St. Elizabeth be able to access those employment opportunities?

MODERATOR: Joseph, hold it right there, don't move from the mike, just hold it right there. Please answer that question.

DR. ROSS: The Alpart workforce is made up mostly of persons from the community, as we put the Company together again, as we re-open we will be putting all the requests, Ads, et cetera, for persons to work with the Company.

Now, we have workers at all levels, we talking from Chemists, working in the lab, we talking about engineers, we talking about skilled trades men and we talking about causal workers.

When JISCO took over Alpart they actually recruited and sent off a group of persons to China, a group of engineers, to learn power-house skills and other skills because we need these skilled persons working with us. We

need the calibre of persons that can work and can absorb these new skills and we have always tried to encourage it and we actually as I said, sent persons to China to be trained and they came back and are working at Alpart and we hope that as we restart the plant that we will we be putting those persons back in and we will be sourcing others to come and work with us and to help to build Alpart and build St. Elizabeth.

MODERATOR: Thank you, Dr. Ross. Joseph, I hope you are still at the microphone, because I want to ask what are you studying at the University of the West Indies?

MR. SMITH: A Bachelors of Science Degree in International Relations with a minor in Management Studies.

MODERATOR: All right, I just wondered if there was an opportunity for you to apply to Alpart for work. Go ahead, you had something else to say.

MR. SMITH: After the mining and the land is just there, is there any intention by JISCO Alpart to put a infrastructure there that the communities in the Essex Valley section of St. Elizabeth can benefit from for example a civic centre there that will be able to improve those clinics or a sports complex or that's not a part of your intentions?

MODERATOR: Can you take that again, I don't know why, everything is at you, at you, at you. You need some good cornmeal porridge.

DR. ROSS: As I mentioned earlier, we have worked closely in the past and we will continue to do so in terms of assisting the clinics. There are

a number of places Alpart have helped to build or modernized.

St. Elizabeth Technical High School, Alpart was very instrumental in setting up the building of that school and the expansion of the school, the back playfield of the school right now is on Alpart land and I know the principal has been talking to us about the possibility of expansion of the infrastructure at the school, and this is something that our principals will listen to and will take that into consideration.

But wherever we are working we try to develop infrastructure as part of the legacy that we leave behind, not all of it can be done by JISCO Alpart, we do not have the ability to put in place all of the infrastructure that the communities would like, but we work very closely with the Jamaica Social Investment

Fund, with the Ministry of Mining, with the Ministry of Agriculture and also remember that a significant portion of the income generated by Alpart goes into the Capital Development Fund which is also used by the Government for the development of capital projects in the mining communities.

MODERATOR: All right, thank you so much. WhatsApp question: *"How soon does JISCO intend to start mining in the new proposed mining area?"*

DR. ROSS: Once we have approval of the SML we will move our team back into the areas on a more concentrated basis to do the preliminary engineering, scope, planning to get the actual infrastructure in place to start mining. So, we would expect that we would be in the communities, we would be in the areas talking to persons planning within a year after

approval is given, and that we will start mining within four to five years of the approval.

MODERATOR: All right, thank you very much. Do we have someone else at the mike in Santa Cruz? And while I sought that out, let me just remind you that we have JISCO's Executives from China, who were unable to be here earlier, you did hear the remark brought from China, to this meeting, the CEO Feng Yipeng and Deputy GM Sun Jing and Zhang Xuelu. So, we just want to acknowledge that they are still there on Zoom for this meeting.

All right, we wanted to, I am so sorry that I can't get the mike to you at this point Andrene but - I think you wanted to have addressed this matter of the health and the air quality issues. Yes, we are going to try and get a microphone to you. Thank you very much. Let me just introduce Mrs. Andrene Jones, you

may want to stand. Yes, Mrs. Andrene Jones, you will soon see and hear her. While we sort that out, Environmental and safety Consultants at JISCO, we do have four or five resource persons in the room. Mrs. Jones, please go ahead. You wanted to talk about air quality and health factors.

MRS. JONES: Yes, thank you, Madam Chairperson. I just wanted to add to what Dr. Ross said because he explained one side of the coin in terms of source control with wetting and making sure that we do not clear excessive areas of land but there is another side of the coin. We have a very extensive environmental network run by our hard-working team, and we monitor air quality and water quality. We have TSP or Total Suspended Particulate monitors...

MODERATOR: Slowly for me.

MRS. JONES: Total Suspended Particulate monitors or PM10 monitors and these measure air quality.

When we site them NEPA has to approve the locations to make sure that numbers are representative and accurate and these samples we have to report on a monthly basis to NEPA.

So, this network will be extended to the new mining area. Having reported them we have to compare the numbers that we get to establish standards. And the NRCA standards, National Air Quality Standards are standards that take into consideration human health, those are the primary standards, as well as plants and animals health, those are secondary standards.

So, that is how we measure how healthy our air is. In addition to that we have, we do

compensation payments if there is nuisance dusting and Frank manages the compensation, standards compensation that is given to person living within a certain proximity to our mining area.

So, I just wanted to add these comments because I know that there is concern about health issues in mining areas such as the one that we are going to be embarking on.

MODERATOR: Thank you, I really do appreciate your input. Thank you so very much. The other side of the coin that she said she was bringing in. She did bring the other side of the coin. I don't know if anybody else here wanted to comment on anything to do with that matter, no? I see you needing to say something, Mr. Basil Fernandez.

MR. FERNADEZ: I just wanted to say that Mrs. Jones and myself have worked closely together as part of the Government Alpart Monitoring Agency. Water Resources Authority as I was the head at the time, Jamaica Bauxite Institute with Mr. Paris Awyee, who has also retired, Mines and Geology Division, NEPA and the Ministry of Health. And we meet on a quarterly basis and we looked at the water quality, the air quality and various other aspects, output of the model, we looked at everything, and we get all these reports and we have made significant strides in getting more green into the operation of Alpart in any area.

I keep remembering a story that when I was a technician and working at Water Resources I stood at Alpart gate one day for eight hours to collect a water sample and I didn't get it until a worker showed me a pipeline and seh

walk on the pipeline and you will find the well.

I walked on the pipeline and got to the well and I through that day I learnt exactly where the well were up to at Pepper and collected a water sample but Mrs. Jones and myself and the committee that she has there have worked assiduously and very hard in ensuring that we were share information, and we work towards bettering the environment for the overall operations at Alpart.

MODERATOR: Thank you so very much. Dr. Eric Garraway, Terrestrial & Conservation Biologist and Team Leader, we haven't heard you in this discussion and I want to bring you as a Terrestrial and Conservation Biologist what is your area of specialization with this matter that we are discussing is concerned.

DR. GARRAWAY: Good evening to all. I am leader of a team of persons who look at the living aspect of the environment.

MODERATOR: The living aspect?

DR. GARRAWAY: Meaning the animals and plants. Animals meaning from the large things right down to the tiny insect because they are all part of the ecosystem and as we go through this mining operation we make sure that the ecosystem health is maintained.

So, my team and I have Mr. Damion Whyte with me here today, my team will be looking at is the nature of the vegetation, what would change? What is the nature of the animals that live there and what would change? And what we have found basically is that, this area has being utilized for centuries, it is the plains, that's where the farms have been there for

centuries not just the hills but on the plains and therefore the land as we utilize and the type of the expense - By animals and plants - These issues very quickly, that is as far as we clear land and leave it behind a bit. There are some animals and plants, very often, Jamaican plants and animals, that would come into these little spaces and so the great expense is highly disturbed.

After the mining process we will put back in a new, we rehabilitated in various ways, the farmers generally, the first thing they want is land to farm, not so much a forest in the classic sense, probably a fruit forest. But that is still allowed for certainly Jamaican animals and plants will still come back and get reestablished. So, I don't think we are likely to lose any major species so far as I can see, but I think somehow active, we would be able

to enhance and improve some of that and we will see it.

MODERATOR: Thank you. You mentioned that Mr. White, Damion Whyte is also a part of your team. Could we get the microphone, Mr. Whyte could you stand? While I talk we are going to fix that microphone for Mr. Whyte. He is Vertebrate Biologist, we getting down into this business and what your work, your specialization, how has that benefited the EIA, and what we are discussing here this evening. Mr, Whyte we thank you for just letting me pull on you like that.

MR. WHYTE: Well, thanks for having me, so part of the TOR of the EIA is to look at...

MODERATOR: The TOR, Terms of Reference?

MR. WHYTE: Terms of reference was to look at what animals are there. So, my specialty was to go

down there and see - We have special animals like what we know the Jamaican Coney and we have special bats which are in Jamaica. We have over twenty-two bats. So, we have four which are...

MODERATOR: You mean rat bats?

MR. WHYTE: Rat bats.

MODERATOR: Over twenty-two species.

MR. WHYTE: Yes, and we have four which are found nowhere else other than here in Jamaica. So, one of the first things that we had to do, we had to go around and make sure to see what animals are there. And we didn't find any of our major protected animals in the area that is going to be mined.

MODERATOR: When you do this kind of work you do it day and night because rat bats is night work that.

MR. WHYTE: Yeah mon, so we go out there day and night and we put out cameras we, camp out, we meet the people - Because remember we can't do these surveys without the help of the people because the people live there and they are on the farm and we might come there for a limited sample area. So, first you have to talk to the farmers, talk to the residents and then we have to put out the equipment to confirm what is there and we do a lot of that. So, we enjoyed that work as we got information like the animals which are found in the pond, out there like turtles, we find how much turtles, we look at the frogs and all of that. So, what I should say is that the team did a very good job in identifying the animals and we also make sure that the proposed mining areas didn't have impact on the animals that we found.

MODERATOR: Thank you. Thank you very, very much. And you know that there is an Archaeologist sitting there and I know she is thinking to herself, I hope she doesn't bother ask me to speak, but I am going to ask you to speak, that's Miss Angelique Mullings, Archaeologist, because you are coming at this infamous, different prospecting and the people in St. Elizabeth are Jamaican would want to know really what is that will be affected or what did you find as part of the team where archaeology is concerned.

MISS MULLINGS: Okay, well. Good evening everybody. As was mentioned during the presentation in the potential mining area that we are looking at a lot of the remains of the things like plantation buildings have already been destroyed due to development or built over or just left to ruin. So, during my part of the assessment I went

around documenting all the different archaeological sites that are in the area which are mostly plantation buildings but also early buildings from towns in the area like in Santa Cruz. So, those have been documented to make sure that if any potential mining activities, those can be avoided and will not be destroyed.

MODERATOR: And the plantation buildings they are all pretty much destroyed from that era.

MISS MULLINGS: From that era mostly in ruins at the moment.

MODERATOR: They are in ruins?

MR. WHYTE: Yes.

MODERATOR: Any good bricks left out of any of them. I asked that question because don't forget that it was a plantation down in Trelawny where every single brick was taken and moved and taken to the University of the West Indies to

build the Chapel. That's why I asked that; any good bricks leave.

MISS MULLINGS: Some stones have been left but no whole structures from the plantation.

MODERATOR: Thank you so much for allowing me to pick on you like that and I don't know why Dr. Early Bailey think he is going to come here and sit down in here. Please go to the microphone, Dr. Earl Bailey. Dr. Early Bailey, if you notice what the team had been trying to do, the JISCO Alpart team is give you a rounded prospective of - Yes, so we are going to adjust that microphone for you, Dr. Bailey. A rounded prospecting of the work that was carried out, the people involved and that the residences of the various communities listed and there are several of them listed in the presentation. Some with some beautiful name, I am telling you, Pepper and Long Hill and Friendship and

Gilnock and Goshen, we have Goshen in Clarendon too, please remember that. Now, sir, Earl Bailey you are Urban Planner and Land Resources Management, as part of this EIA team what would your role be, this is not Kingston where we are building.

DR. BAILEY: I was trying to say in the background but you dig me up. When I looked at the socio-demographic condition in the area. So, basically we did a stock of the houses in the area, the building materials, how the material, household sizes, we thinking about maybe almost 800 persons were interviewed in total, land ownership patterns, if persons own lands elsewhere and the overall perception of mining. I think we measured but the agreed certain aspect of mining, basically the residents show positive attitude towards mining in terms of employment opportunities,

they spoke about their relationship with JISCO over the years.

MODERATOR: Their relationship with JISCO Alpart.

DR. BAILEY: Which is positive. So basically, we have a good overlay of the demographic of the area, persons tend to land, if persons are *au fait* or not with relocation there is a high for relocation, persons are willing to relocate but overall persons see a positive impact of the activities on their livelihood. The areas of abject poverty, basically middle, lower middle-income communities, family size ranged from National Family size of 3.2 persons to over 17 persons in one household in some cases or more. Very dispersed settlement patterns in the entire area, not much significant economic activity outside of the Santa Cruz area to be concerned with significantly.

So, overall I am not seeing any opportunities for significant displacement whether economically or physically that cannot be handled within proper planning.

MODERATOR: And further consultation with each family, each household. Thank you so very much.

DR. BAILEY: You are welcome.

MODERATOR: Thank you Dr. Earl Bailey. One of the questions I wanted to ask Dr. Ross, it was touched on briefly about the haul roads. I have heard people in the bauxite communities asked for those haul roads to be left also new roads to be put in, how does JISCO Alpart handle that?

DR. ROSS: Thank you, Madam Moderator. We have worked very closely with both Manchester and St. Elizabeth in looking at the future utilization of haul roads. I am a member of the

Manchester Parish Development Committee, and one of the things we looked at was the main haul roads that are put in some areas, if they could be left and utilized as the base for Class B, Class A, major arterial roads. After we do our haul roads the base around those haul roads is very strong and very compact, and in many cases, it just leaves the top ceiling to the make these useable roads for the public.

So, we work with the Parish Development Committee, we work with the National Works Agency because some of those roads will be NWA, and we work with the Municipal Corporations, and we do assist where we can in terms of...

MODERATOR: And I am telling you to speak into the mike, I know you are looking at me.

DR. ROSS: Yes, we do assist in terms of leaving or utilizing these haul roads and some are access roads which have roads coming off the haul roads for future development.

Where we actually developed housing subdivisions, we do these in areas that we have mined or bordered these areas that we have mined and we utilized these quick access roads and these haul roads as major roads within these subdivisions that is at Newport and in other areas.

MODERATOR: Thank you. We are going back to the location and then Zoom. I know there is a question there, we will come to it right after we bring Alvin back in. Alvin, it's over to you from SETHS location.

MR. HILL: Yes, I am glad that I heard Dr. Ross mentioning that he works closely with the

Manchester Development Committee, and as I mentioned before as the President and Chairman for the St. Elizabeth Parish Development Committee, I would want to have that sort of relationship with JISCO Alpart, working in St. Elizabeth to develop in terms of the development of the parish.

One of the questions that I would love to have answered is, when will we move to a point where we do not just export the refined bauxite, but we actually have a finished product in terms of alumina, aluminum being processed in Jamaica? Is that something that we will ever see, I will ever see in my lifetime where we have both the start and the end in terms of the production process?

MODERATOR: Alvin, one moment, let me have them answer that question because that is a question that I have been hearing from the 70 at least. Who

is going to take that on? Stay at the microphone Alvin, I will come back to you for the continuation.

DR. ROSS: The issue, the main issue around the further refining of alumina, is the aluminum and the providing of the manufacturing of aluminum projects is the energy and the energy cost. It is very costly to further process alumina into aluminum and many of the areas that are doing this are mainly depending on hydroelectric power, which we have very little of here in Jamaica. So, this is something that, I know JISCO, when they came in was looking at in terms of modernization and improving our power house at Alpart ,and to use excess capacity to do further processing. However, I think this is more in line with the actual utilization of aluminum for finished products rather than processing from alumina into

aluminum. Until we can solve that energy problem, cheap cost of energy here, then I don't think that will be practical for use here in Jamaica.

MODERATOR: Thank you, Dr. Ross. Alvin back to you, I think you have one other question and then I go to the Zoom question. I am not forgetting you. Go ahead, please.

MR. HILL: Thank you very much. I heard some time ago, way back, that there was a plan afoot to develop a tech town or tech city with all the requisite infrastructure, I don't know if that is still something that Alpart is going to take on to actually help to revitalize some of the town areas like Main or Junction, in terms of having all the necessary technological advancement that is required.

MODERATOR: Thank you so much, thank you. Dr. Ross, it looks like it is you again.

DR. ROSS: Well, I am afraid that this one I really can't speak to with any sort of actual self-confidence. I know you would like to see a development of additional or technological areas around Alpart, but at this point in time I can't give any real commitment to that. This is something that we will have to look at over the medium to long-term, if the energy situation improves.

MODERATOR: Thank you very much. Let me go now to a Zoom question. *"Which areas in Santa Cruz will be mined, if any?"*

DR. ROSS: There is an area in Santa Cruz that in fact, stretches from behind SETHS towards the Blackwood area. This is the land that has been owned by Alpart. There is a significant amount

of bauxite on it, and we have it now on lease so that we can look at mining in the future. That will require - We have a couple of things that exist from that area, that would be available to us to move the bauxite out of that cluster of subdivision in Santa Cruz onto to the haul roads and to the plant. So, this is something that we are actively looking at, and we do have a couple corridors that we have identified that we can use to bauxite on. And again, as we mentioned, mining in an area that is built-up it takes a high level of skill and high level of commitment to our neighbours, and we definitely will be looking at ways of mitigating any form of nuisance, whether dust or noise when mining in that area of Santa Cruz. Once that area is mined and rehabilitated, there is the option for the expansion of a number of areas of the

township in that area. So, we will see what happens in the future.

MODERATOR: Thank you. We are coming close to the end of our programme, our presentation, this hybrid townhall. On WhatApps, Macadian Jones. *"The perception is that bauxite dollars are exported in the same manner as does the bauxite. With this perception in mind, and the local reality within the region as the lack of critical infrastructure, portable water, proper community centres, poor roads, et cetera, please state specifically what planned investments or development we the citizens can anticipate from the proposed mining of our community, if any?"* You want to take that? And I think that is pretty much going to be it after you have answered that one.

DR. ROSS: As a company operates in a community, what the company puts back into the community is

not just the money that goes into taxes, but also social programmes and any developmental programmes that we can put together along with the Government, Government agencies and the private sector - It is a partnership. No individual company, especially in this times of economic strain, can develop an area to the level that this question relates, or to the level that you would like, it has got to be a joint partnership, and we are quite willing as a company, to sit with stakeholders to discuss developmental programmes and plans and where we can assist, we assist, both in technology transfer as well as in any form of industrial support to develop these areas. But this is not a single company operation, this will have to be a joint operation and with significant input from the

private, the public sector and our neighbours in the community.

MODERATOR: Thank you, Dr. Frank Ross. And we are now at the end of the questions and answers session. However, all the questions received will be addressed.

And you are also reminded that after this evening you will have 21 days to submit your comments to NEPA, and the comments should be sent to NEPA's Applications Secretariat, the email applications@nepa.gov.jm or you can send it by mail to 10 Caledonia Avenue, Kingston 5.

I have some individual thanks that I would like to say now: Andrew Smith and Lisa Brown down in Santa Cruz, that's SEHTHS, we would like to thank you.

I would like to thank Carlington too and the entire JNN Production team at SETHS for the work that they have done.

The participants, you took the time and interest, very important, because it was meant for you to ask your questions, make your comments and share your observations. I want to thank you very much.

Our Panelist here. Thank you so much, Dr. Timon Waugh, Dr. Frank Ross who really had a burning this evening, Mr. Basil Fernandez and Dr Eric Garraway.

Our resource persons, Mrs. Andrene Jones, Dr. Earl Bailey, Miss Angelique Mullings, Mr. Damion Whyte. And I want to thank our Steno Writer. Thank you so much Miss Jannet Wray.

And a few other people I want - SETHS, the principal and he is big in sports, I don't want

to have to run way, if I don't thank him because he is a very active sportsman. How you doing Mr. Wellington, do I have your name right? Yeah mon, him big down there.

But I also want to thank in Studio, Melissa Vassell for running the teleprompter, the team here, the JNN team in studio, I thank you all very much because I call on you to move and all kinds of things when it wasn't really planned, thank you. Scott Wilson, Director and Sutanya Williams. Thank you so, so very, very much. I hope mi cover everybody.

And listen to me now, mi have mi mask right behind me, you know, see here so as this done mi mask, see them mask up already. Don't they look handsome? Thank you very much and take care of yourselves, continue observing the protocols, Covid is still happening.

We have some kind of ease, what is it now, kind of going down, but it still a happen. Take care of yourselves, and thank you so much for participating. Walk good!

ADJOURNMENT TAKEN AT 7:30 P.M.